

WHAT IS CLAIMED IS:

1. A method for predicting, using a test wafer, a temperature of a wafer to be loaded into a lamp heating system including a lamp, the method comprising the steps of:

a) preparing the test wafer, which includes a first semiconductor layer formed in a crystalline state, a second semiconductor layer formed in an amorphous state on the first semiconductor layer, and a light absorption film formed over the second semiconductor layer;

b) loading the test wafer into the lamp heating system and then irradiating the test wafer with a light emitted from the lamp, thereby heating the second semiconductor layer through the light absorption film;

c) calculating a recovery rate at which a part of the second semiconductor layer that has been heated recovers from the amorphous state to the crystalline state at the interface with the first semiconductor layer; and

d) measuring a temperature of the test wafer that has been irradiated with the light, according to a relationship between the recovery rate and a temperature corresponding to the recovery rate.

2. The method of claim 1, wherein at least a part of the light has a wavelength at which the first semiconductor layer transmits the light.

3. The method of claim 2, wherein the light has a wavelength at which the first semiconductor layer has a transmittance to the light, the transmittance increasing within a temperature range.

4. The method of claim 1, wherein the light has a wavelength from about 1.0 μ m to about 3.0 μ m, both inclusive.

5. The method of claim 3, wherein the temperature range is from about 450°C to about 600°C, both inclusive.

6. The method of claim 1, wherein the test wafer has a diameter of about 30.5cm or more.